Ontario Field Crop Report

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For emerging issues, questions or to provide feedback on this report, contact the CropLine at 1-888-449-0937. Technical information can also be obtained at the OMAF Field Crops Webpage. The Crop Report often references several of the OMAF Publications, including Publication 811: Agronomy Guide for Field Crops ($20), 812: Field Crop Protection Guide ($10) and its supplement (free), 75: Guide to Weed Control ($10), and 505: Ontario Weeds ($15). These can be obtained from your OMAF Resource Centre, or by calling the Agricultural Information Contact Centre at 1-877-424-1300.

This is a brief summary of the 2004 forage, soybean and edible bean, cropping season, with emerging issues identified for consideration in the 2005 growing season. Reports for cereals, canola and corn will follow. During the next year attend meetings, ask questions, and participate in projects to find answers to these and other issues.

Forage Seasonal Summary

Alfalfa winterkill this spring was greater than normal in some regions of the province, and was quite extensive in eastern Ontario. In parts of the Ottawa Valley, as much as two-thirds of the crop was affected to some degree. Reasons for this include extensive harvesting during the 2003 Critical Fall Harvest Period, poor winter hardening due to warm wet weather during late autumn 2003, alfalfa root disease complexes and crown heaving. Flat heavier clay soil types, new seedings that experienced high levels of potato leafhopper damage, and diseased older stands were more susceptible to winterkill. Winter survival of 2003 summer seedings was poor where dry conditions reduced or delayed emergence going into the fall.

Spring carry-over forage inventory levels were below normal in some areas. However forage yields were average to above average in most areas, bringing inventories to adequate levels. Yields were significantly lower in eastern Ontario and Algoma due to alfalfa winterkill.

Similar to 2003, cool wet spring weather delayed forage growth considerably. The cool weather slowed the growth and development of the legumes much more than the grasses. This resulted in many mixed

stands with a high proportion of grasses, and grasses being more mature relative to the legumes. Alfalfa fibre levels were higher than average based on stage of development. Laboratory analysis of first-cut indicated many samples with higher than normal Neutral Detergent Fibre (NDF) and lower Crude Protein (CP) levels, but with closer to normal fibre digestibility (NDFD).

In general, 2004 forage quality was reduced. Early first-cut harvest was delayed in many areas due to frequent rainfall. Due to difficult drying conditions, considerable amounts of haylage and baleage were made. There were numerous reports of baled hay that heated during storage. Propionic acid was applied to dry hay at baling by some producers to prevent mould. Very little dry hay was made without rain damage or mould until July. This has resulted in a short supply of "horse quality" hay for the domestic and export markets. Much of the beef quality hay is also rain-damaged or mouldy.

The cool, wet spring conditions resulted in some alfalfa seeding failures, with poor emergence and stunted growth, particularly on poorly drained fields. The alfalfa seedling diseases Phytophthora root rot, Pithium, and Aphanomyces root rot likely played a role. The fungicide seed treatment metalaxyl (Apron) is effective against Phytophthora and Pithium, but not Aphanomyces. Resistant varieties are available for Phytophthora and Aphanomyces.

Potato leafhopper levels were high across the province, particularly in the Lake Erie region. Damage to new seedings and second-cut regrowth was extensive in some areas. Potato leafhopper damage is partially responsible for the failure of many 2003 spring alfalfa seedings.

Pasture production was very good for most of the season. The cool spring delayed early development. When cattle were turned out according to the calendar rather than the development of the pasture, some damage was done. Adequate rainfall supported good early summer pasture growth. Drier conditions in late August and September slowed pasture growth. Good pasture conditions reduced the need for feeding stored forage during the summer. Some pastures have been severely injured by continuous over-grazing in situations where livestock inventories have exceeded forage supplies (such as Algoma).

With the dry September weather and a lack of quality first and second-cut dry hay, considerable forage acreage was harvested during the Critical Fall Harvest Period. This will increase the risk of alfalfa winterkill. Some producers that needed feed waited for killing frost before taking the final cut.

Corn silage yield and quality were generally adequate. Despite the potential for extensive immature corn silage, frosts did not occur until the first week of October. Corn silage harvested and stored in piles or bag silos provided a good late season forage option for dairy and beef operations requiring additional forage inventories.

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Challenges for 2005

Potato Leafhopper

Potato leafhopper (PLH) levels are frequently high in some parts of the province (such as the Lake Erie counties), resulting in significant damage, yield loss and seeding failures. New alfalfa seedings are particularly affected. Potato leafhopper damage in alfalfa is frequently underestimated. More scouting of alfalfa fields needs to be done, with insecticide applied when thresholds are exceeded. PLH resistant varieties should be considered in areas where PLH levels are traditionally high.

Harvest Management For Quality Dry Hay

Frequent rains and narrow haying windows resulted in reduced amounts of quality dry hay. Predicting the weather can be frustrating, but proper conditioner maintenance and adjustment, strategic windrow management and raking, and the use of propionic acid as a hay preservative, can assist producers to reduce the risk of poor quality hay.

Evaluation of Forage Quality Using NDF & NDFD

Improvements have been made in determining forage quality. Neutral Detergent Fibre (NDF) and Fibre Digestibility (NDFD) are a much more accurate measure of digestible energy than Acid Detergent Fibre (ADF). This can result in more accurate ration formulations and forage intake predictions. Producers of high quality forage should request NDFD analysis from laboratories. Corn silage should also be analysed for starch and NDFD to more accurately estimate digestible energy.

Rotational Grazing

Changing from a continuous grazing system to rotational grazing by subdividing fields and moving livestock can result in significantly more production. A rotational grazing system can double the forage production over a continuous grazing system, and reduce the amount of hay fed during the dry summer slump. Rotational grazing with 5 or 6 paddocks, 5 to 7 days grazing, and 28 to 30 days of rest works well. Even a less intensive 4 paddock, 10 days grazing, 30 day rest system can increase production over continuous grazing.

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Soybean Seasonal Summary

Soybean yields were close to long term averages across most of the province and in many cases turned out higher than expected. Yields ranged from 25 bu/ac to 65 bu/ac with the majority yielding in the high 30's through the mid 40's.

A cold, wet planting season delayed seeding, with less than one third of intended acreage planted by June 1st in much of the province. Eastern Ontario enjoyed good planting conditions with a high percentage of acres planted by the end of May. Delays in planting corn resulted in some switching of acreage into soybeans. This along with high soybean prices in the spring pushed Ontario acreage to 2.35 million acres. Some heavier soils were not suitable to plant until after June 15th, especially in the Niagara and Essex regions. A poor spring followed by a cool, wet summer resulted in shorter than average plants and in many cases a lower pod set. By the end of August, soybean development was generally 1 – 2 weeks behind normal. However, with terrific September weather, above average seed size and fully developed upper pods made up the difference to result in an average final yield

Soybean aphid numbers were minimal west of Toronto and only a few fields were sprayed in the Niagara region to control the pest. Aphid populations were much higher east of Toronto into Quebec. A considerable number of fields reached threshold numbers and were sprayed in eastern Ontario. In most cases aphid numbers did not reach threshold until late August and early September.

A wet year increased the incidence of white mould, root rots, and slugs compared to the previous three years. Fields with a history of these problems experienced significant losses.

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Challenges for 2005

White Mould

White mould management in fields with a history of the disease is important to minimize losses. Although white mould is not a problem every year the disease can be devastating during wet years. To reduce the impact of the disease a good crop rotation along with variety selection is the best strategy to reduce losses. Avoid growing other host crops such as canola, edible beans, buckwheat and sunflowers for 3-4 years in fields with a history of white mould.

Soybean Aphids

Soybean Aphid infestations are difficult to predict year to year. Close monitoring of soybean fields will be necessary in 2005 to assess if insecticide applications are warranted.

Soybean Cyst Nematode (SCN)

SCN continues to move across the province. SCN was found in fields as far east as Peel Region last year and continue to be a major pest problem in Southwestern Ontario. Continued crop rotation and the use of resistant varieties have become even more necessary in affected fields to minimize the yield impact of this pest. Many fields are experiencing loss due to undetected SCN. Consider soil sampling for SCN this fall.

Edible Beans

Delays in planting of corn and soybeans resulted in some acreage shift into edible beans, particularly white and some black beans. Planted acreage estimates for white beans are approximately 55,000 acres, and for coloured bean types acreage is also estimated at approximately 55,000 acres.

Soil conditions were dry but generally much cooler than normal at planting time, with soil temperatures of 10° – 15° C common. By the end of the second week of June, about ¾ of intended acreage of many bean types had been planted. Cool and wet weather conditions followed resulting in some uneven and delayed emergence. Consolidated soils caused problems with emergence, and slow early growth.

Root rot was evident early, and continued throughout the summer. July – August conditions were cooler than normal, with above average frequency of rainfall, providing perfect conditions for evident white mould. The pressure from white mould appeared early and was sustained through much of August. USA trade issues with the fungicide Ronilan caused the industry to switch to allow only the use of the fungicide Lance for some markets. Dealers made efforts to accommodate growers preference of fungicide where feasible. Poor control of white mould was often reported in areas with the highest mould pressure.

This year was also the year for anthracnose in white beans. Cool damp conditions from planting through pod fill, provided good conditions for anthracnose to develop. Anthracnose could be found in most white bean growing areas of Ontario. At harvest, most fields of white beans affected with anthracnose were harvestible, with pick generally below 10%, less than expected in some cases.

Above average temperatures, and dry weather allowed for an excellent harvest. Quality of all bean types was excellent with good seed size, shape and colour. For the second year in a row, reported yields were significantly above average.

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Challenges for 2005

White Mould, Anthracnose

Both diseases had a large impact on edible bean production in 2004. These diseases do not occur every year, but they can be devastating in a wet year, if control cannot be achieved. Recently the industry, grower organization representatives, researchers and OMAF met to address issues with both these diseases and to develop management strategies. This winter, look for information from this meeting and other sources to assist in managing these diseases.

White Bean Seed Quality

The widespread incidence of anthracnose in white beans will make it near impossible to ensure that seed is free of this disease next year. Imported seed from the USA often has lower seed moisture content, which increases the amount of mechanical damage upon handling. Extra attention to handling of this seed will be required to minimize problems associated with germination and vigour. Bin run seed with no visible anthracnose lesions, may still be infected with anthracnose and is a high risk source. Seed may be tested for the presence of anthracnose. The last major outbreak of anthracnose in Ontario occurred in 1994. The risks of this disease can be practically eliminated through management practices.

Crop Rotation Sequence

Extra attention to crop rotation will be required to reduce the risk of loss associated from white mould, anthracnose and root rots. Field inoculum levels from white mould will be extremely high. A minimum 3-4 year rotation between edible beans, soybeans, canola is suggested for white mould. Edible beans are very responsive too soil structure. Select only those fields with excellent soil structure.

Related Links

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